A Transportation Appendix

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A Inventory of Existing Facilities & Services

limited access facilities, arterials & streets

There are approximately 54,000 acres of land in the city, nearly 14,000 of which (about 26 percent) are used for street rights of way. Seattle's street network in 2004 consists of 1,534 miles of arterials, including some that are designated state routes, and 2,412 miles of non arterials (see Transportation Figure A-1). In the arterial system there are 620 miles of principal arterials, 566 miles of minor arterials, and 348 miles of collector arterials. High-occupancy vehicle (HOV) lanes exist on some arterials and limited access facilities as shown in Transportation Figure A-3. There are 975 signalized intersections, 4,596 non signalized arterial intersections and 7,029 non arterial intersections. Transportation Figures A-2a-c show the locations of traffic and pedestrian crossing signals in Seattle. The "state signals" are managed by the Washington State Department of Transportation and are located mostly at freeway on- and off-ramps.

traffic volumes

Transportation Figure A-4 shows the 2002 average weekday traffic volumes on Seattle's arterials and freeways. To analyze trends, traffic counts are taken annually on arterials and freeways along screenlines at or near the city limits, and are added together to estimate the traffic volume entering and exiting the city daily. Transportation Figure A-5 shows the trend in average weekday traffic at the city limit screenlines; the volume has increased from 758,000 in 1980 to 1,190,800 in 2003 — a 64 percent increase over 23 years. During the same period, Seattle's population increased by 9.3 percent. However, between 1995 and 2002 approximately 51,000 new jobs were added within the city, a 12 percent increase.

Transportation Figure A-6 similarly shows the trend in average weekday traffic crossing an imaginary cordon around downtown Seattle, bounded by Lenora Street, I-5, Royal Brougham Way, and Alaskan Way. The volumes include traffic getting on and off the ferries. From 1980 to 2003, downtown cordon traffic grew 22 percent, from 371,000 to 475,980.

transit

Public transit in Seattle is provided by three agencies. Metro provides bus, trolley and streetcar services that cover most of King County. Community Transit and Sound Transit operate express bus services to Seattle from King, Snohomish and Pierce Counties. As of 2002, Metro serves a population of nearly 2 million over a 2,128 square-mile service area. It operates approximately 1300 vehicles on about 188 routes representing 7,050 route miles with annual ridership of over 75 million. Transportation Figure A-7 shows Metro's 2004 transit routes in Seattle.

Metro currently operates a 1.3-mile long tunnel under Third Avenue and Pine Street from the International District to 9th Avenue and Pine Street. The tunnel has five stations, and connects to Interstate 90 at the south end and to the Interstate 5 express lanes at the north end. Dual powered buses operate through the tunnel; diesel power is used on streets and highways, while electric power is used in the tunnel. In addition to dual powered buses, the tunnel will be used as part of Sound Transits Link light rail line through downtown. Renovation of the tunnel for use by both buses and trains is scheduled for completion by 2009.

Metro has about 56 miles of two way overhead electric trolley wire in Seattle used by approximately 146 trolley buses. Trolleys produce no tailpipe emissions and are considerably quieter than diesel buses.

All buses operating in downtown Seattle are free to riders from 6 a.m. to 7 p.m. The ride-free zone boundaries are Battery Street, Sixth Avenue, I-5, Jackson Street, and the waterfront. The ride-free zone significantly reduces the need to use cars for short trips around downtown. The Waterfront Streetcar system includes three streetcars, nine stations, and more than two miles of rail. The tracks and overhead wire run along Alaskan Way and South Main Street from Myrtle Edwards Park to the International District.

Sound Transit is the regional transit authority for the Puget Sound area (which includes portions of King, Snohomish and Pierce Counties.) Sound Transit was created in 1996 by voters within its boundary, and is implementing the first phase of its "Sound Move" regional transit plan. The Sound Move plan includes: operation of a 14-mile light rail system (called "Link") between SeaTac and downtown Seattle, with possible extension to Northgate; peak period commuter rail services (called "Sounder") along existing rail lines between downtown Seattle, Tacoma and Everett; and regional bus services.

As of 2004, Sound Transit provides regional express bus services between suburban areas within its three-county service area, downtown Seattle, West Seattle, and the University District. Sounder commuter rail provides rail service between Tacoma and Seattle and between Everett and Seattle. Besides the King Street Station, where the Tacoma and Everett services reach downtown Seattle, there are two provisional Sounder stations identified in Seattle in the Georgetown and Ballard communities.

By 2009 there will be at least 11 Link light rail stations in Seattle: in the Rainier Valley at Henderson Street (Rainier Beach area), Othello Street (Holly Park area), Edmunds Street (Columbia City area), and McClellan Street (Mount Baker area); Beacon Avenue and Lander Street (Beacon Hill area), and through downtown using the existing downtown tunnel stations. Stations planned but deferred for future operation include Graham Street, and Royal Brougham. Currently, planning for extension of Link north of downtown to Northgate is under study. In 2004, Sound Transit identified a preferred route for North Link. The preferred North Link route will stretch north of the Downtown Seattle Transit Tunnel with stations at Madison Street (First Hill area), Nagle Place (Capitol Hill area), Husky Stadium and Brooklyn at NE 43rd Street (University District), NE 65th Street (Roosevelt Neighborhood) and Northgate. It is anticipated that by 2030 this line will have a daily ridership in excess of 150,000 passengers.

In 2002, Seattle Voters approved a measure to fund construction of a monorail linking Ballard, Downtown, and West Seattle. Construction of the 14-mile line is scheduled to begin in 2005 with partial opening planned for 2007 and full operation in 2009. Planning for the 2nd of potentially 5 lines by the Seattle Monorail Project began in 2003. Currently, the City of Seattle operates a monorail on a mile of elevated guideway between Westlake Mall in downtown Seattle and the Seattle Center. The monorail carried about 2.1 million riders in 2003. The Seattle Monorail will close in the fall of 2005 to make way for construction of the Seattle Monorail Projects' Green Line.

Metro and WSDOT operate 15 park and ride lots in Seattle with approximately 2,280 parking spaces, as shown in Transportation Figures A-9 and A-10. There is also a Metro transit center just south of the Northgate Mall. The park-and-ride lots may be used by commuters, free of charge, to meet a carpool, vanpool or bus. Metro provides wheelchair accessible buses and other special transportation services for persons unable to use regular bus service. For example, low income King County residents 65 years or older and people with disabilities are eligible for reduced cost taxi trips. Other Metro programs and services include custom buses, special event service, the U-Pass program with the University of Washington, bikes on buses, vanpools, and a ridematch service.

bicycles & pedestrians

Bicycles are classified as "vehicles" in the Seattle Traffic Code and have the right to use all streets in the city except where explicitly prohibited. Transportation Figure A-11 shows the three categories of bike facilities, and the miles of each. Bicycle racks are provided in neighborhood commercial areas and downtown, and some work places provide secure, weather protected bike parking, showers, and lockers. As of 2000, the City has installed over 1900 bike racks across the city. Seattle's Land Use Code requires that many new developments include bike parking where parking is built for cars.

Metro first installed bike racks on buses in 1979 to carry bicyclists across the SR-520 Bridge. Metro has since installed bike racks on their entire fleet of buses. Metro also has bike racks and lockers at some of its Seattle park-and-ride lots and at the Northgate Transit Center. The Washington State Ferry Colman Dock in downtown Seattle has bicycle racks for 10 to 15 bikes, while the Fauntleroy dock has none. All ferries provide simple tie-downs for bicycle transport, although the passenger-only ferries can carry only five bikes.

Of the City's 479 miles of arterials (in 1995), about 306 miles had sidewalks or asphalt walkways on both sides of the street, and 140 miles had a sidewalk or walkway on one side of the street; about 33 miles of arterials do not have sidewalks or asphalt walkways on either side of the street. "School walk boundaries" define areas where school bus service is not provided and students generally walk to school. In 1995, there were 20 miles of arterials in elementary school walk boundaries without sidewalks on either side of the street; and there were 362 miles of Seattle residential streets (non-arterials) lacking sidewalks within the school walk boundaries.

parking

On-street parking occurs in the public right-of-way and is therefore regulated by the City through the creation of no-parking and special-use parking zones, time-of-day restrictions, parking duration limits, pay stations/meters, and residential parking zones. In 2004, the City started converting most single-space parking meters to parking pay station kiosks. All pay stations will be installed at the rate of $1.50 per hour. As electric meters are reprogrammed, the parking meter rate will increase to $1.50 per hour. Because existing mechanical meters cannot be reprogrammed, they will remain at $1.00 or $0.60 per hour and will be phased out as pay stations are installed.

Residential parking zones (RPZ's) are designed to protect Seattle's residential neighborhoods from parking impacts and congestion from major employment and/or retail centers. In an RPZ, on-street parking is generally restricted to one or two hours, except for residents and guests who display special RPZ decals. Existing RPZ's are in the following communities: Montlake, Squire Park, West Seattle-Fauntleroy, Capitol Hill, Wallingford, University District, First Hill, Eastlake, Magnolia, North Queen Anne, North Capitol Hill, Uptown (Seattle Center), Central District (Garfield High School), Belmont/Harvard, Mount Baker (Franklin high school), North Beacon Hill, Licton Springs (North Seattle Community College), Cowen Park/Roosevelt, Ravenna Bryant

Off-street parking facilities are usually privately-owned and operated. The City regulates the location and size of garages and lots through the Land Use Code and facilities with paid parking pay a licensing fee. Transportation Figure A-12 shows inventory data for off-street parking in three Seattle areas: the Central Business District, Uptown/South Lake Union, First Hill and the University District.

Carpools receive preferential parking treatment through City programs, allocation of on-street parking spaces, and Land Use Code requirements for carpool parking in new developments.

rail

Passenger Rail: Amtrak operates trains over 900 miles of Burlington Northern tracks in the state and provides service to 16 cities. The Empire Builder provides daily service from Seattle to Spokane and on to Chicago; the Cascades operates twice a day to/from Portland, and daily to/from Vancouver, B.C. The Coast Starlight runs daily connecting Seattle to Portland, Oakland and on to Los Angeles

Freight: Burlington Northern Santa Fe (BNSF) owns and operates a mainline dual-track from Portland to Seattle. Union Pacific owns and operates a single mainline track with two-way train operations between Tacoma and Seattle. BNSF owns and operates tracks that extend north from downtown Seattle to Snohomish County and then east to Spokane. A connecting spur, operated by the Ballard Terminal Rail Company, serves the Ballard and the western ship canal area. BNSF trains range up to 5,500 feet in length; Union Pacific trains are up to 7,700 feet long.

Rail-line capacity depends on train length, operating speeds, the number of switch crossover points, and whether the line has one- or two-way traffic. Current train speed limits in the City are 10, 20, or 40 mph depending on the segment.

There are three truck-to-train intermodal terminals serving the Duwamish Industrial area: Burlington Northern Santa Fe operates the Seattle International Gateway yard north of S. Hanford Street, Union Pacific operates the Seattle Yard north of the Georgetown neighborhood, and the Port of Seattle operates an intermodal facility at Terminal 18. North of downtown Seattle is BNSF's Interbay rail yard.

air transportation

There are three commercial aircraft landing facilities in the greater Seattle metropolitan area: Seattle-Tacoma International Airport (Sea-Tac), operated by the Port of Seattle and located in the City of SeaTac; the Lake Union seaplane base in Seattle; and the Lake Washington seaplane base near Kenmore. Sea-Tac's facilities include two instrument runways, 76 loading gates, one main and two satellite terminals, and 4.5 miles of intra-airport roads. Sea-Tac accommodates over 38 airlines, including 13 international passenger carriers and 18 all-cargo carriers. In 2003 there were 354,770 aircraft operations at Sea-Tac.

The majority of general aviation flights take off and land either at King County International Airport (Boeing Field) or at one of the 11 active privately-operated helistops and heliports around the city. Boeing Field has one 10,000-foot runway with an instrument landing system and one 3,700-foot runway. The number of flight operations at Boeing Field was 363,838 in 2000.

water transportation

The Washington State Ferry (WSF) system operates two terminals in Seattle - Colman Dock in downtown Seattle, and the Fauntleroy terminal in West Seattle. Passenger-and-vehicle service is provided on two ferry routes from Colman Dock - to Bainbridge Island and to Bremerton. Passenger-and-vehicle ferries link Fauntleroy with Vashon Island and Southworth.

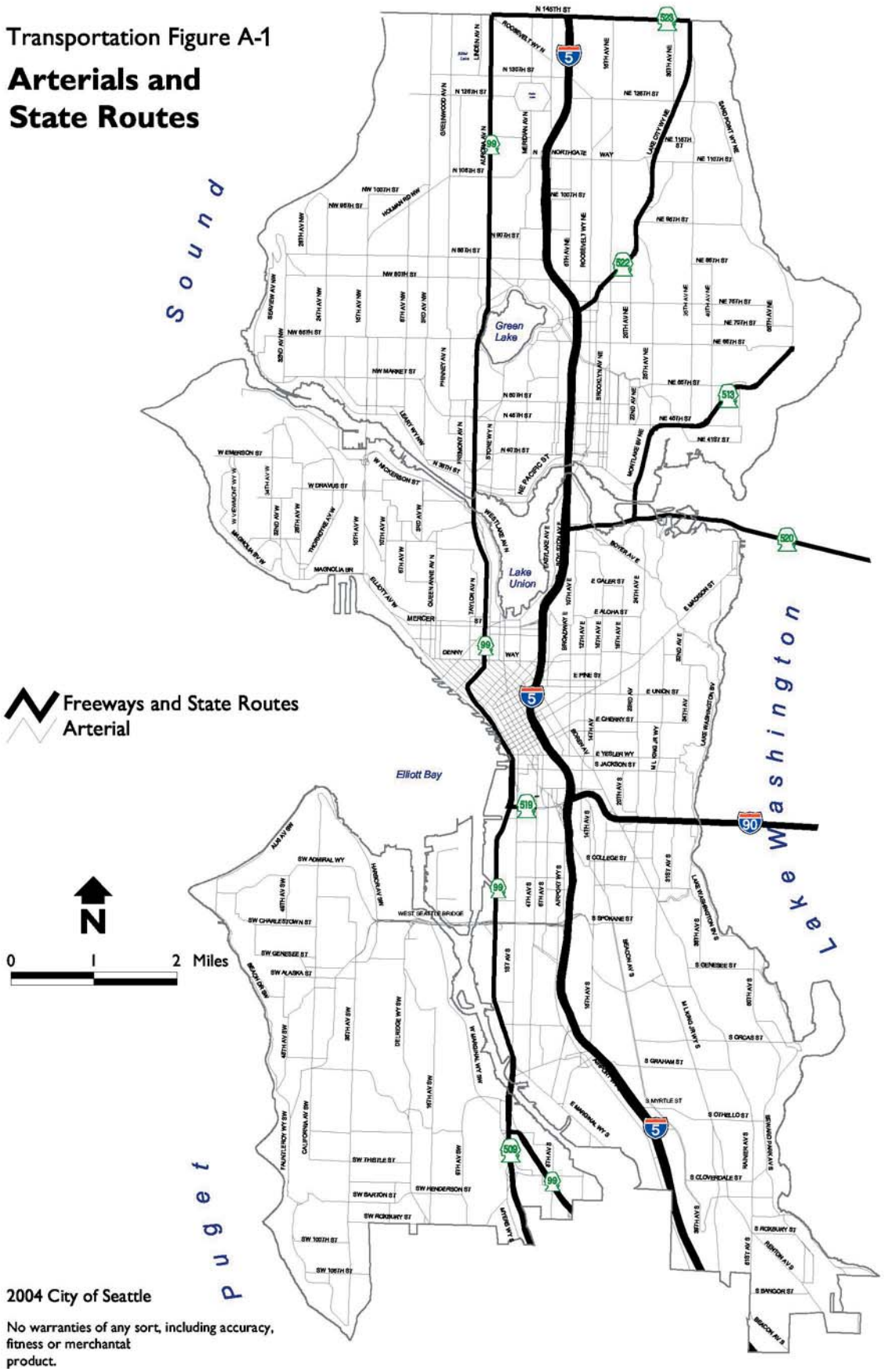
The Victoria Clipper operates between one to four round trips daily, depending on the season, between Seattle and Victoria on passenger-only catamarans.

other intermodal facilities

The Port of Seattle operates and supports marine, rail, and air intermodal facilities. Port of Seattle facilities include 25 commercial marine terminals, three container terminals with 23 container cranes, a warehouse complex and distribution center, and a deep-draft grain terminal. Services are offered by about 100 steamship operators and agents; about 30 tug and barge operators; about 100 truck and warehouse operators; and Burlington Northern Santa Fe and Union Pacific railroads, operating intermodal yards. Transportation Figure A-13 shows the Port of Seattle facilities located in Seattle.

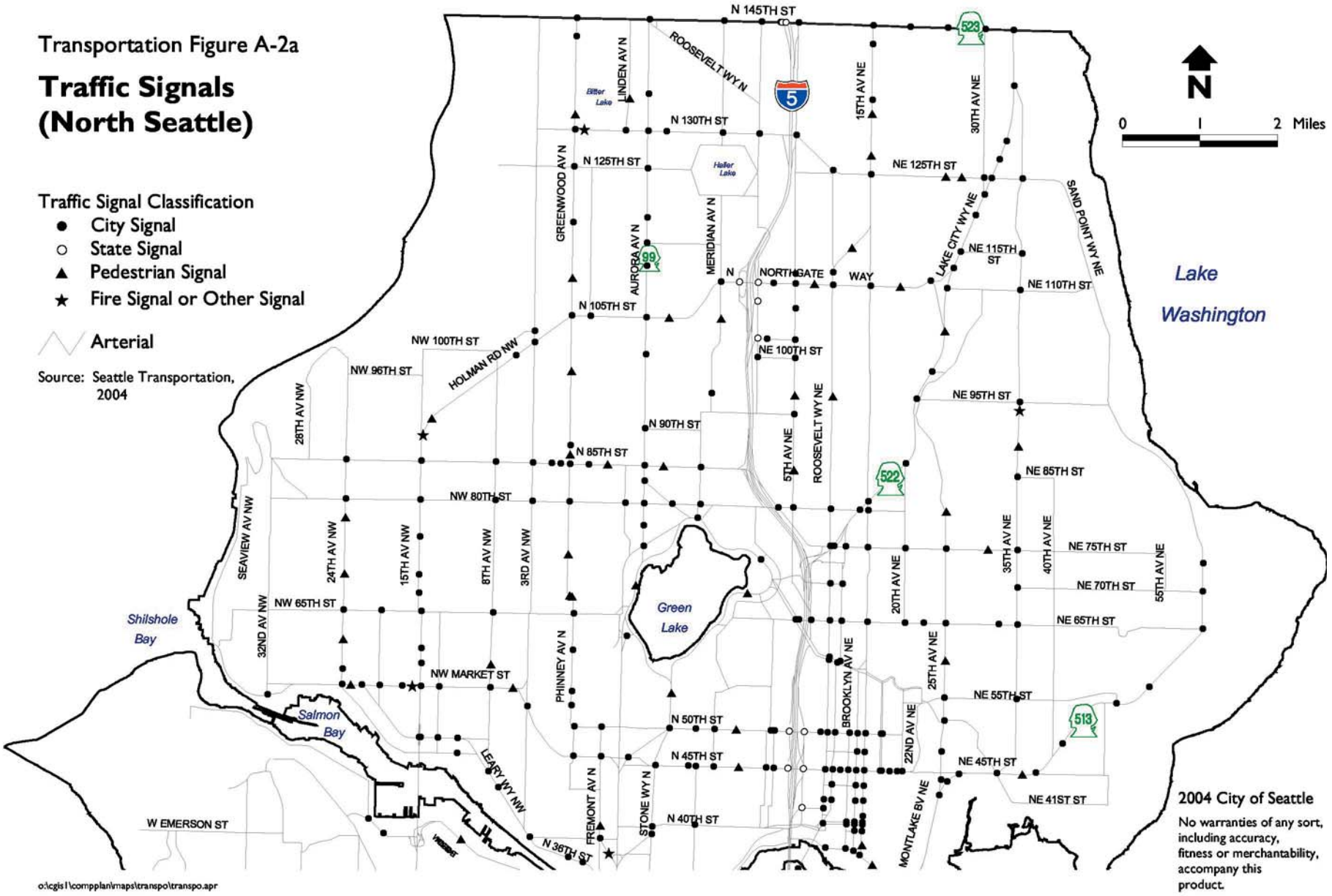
Transportation Figure A-1

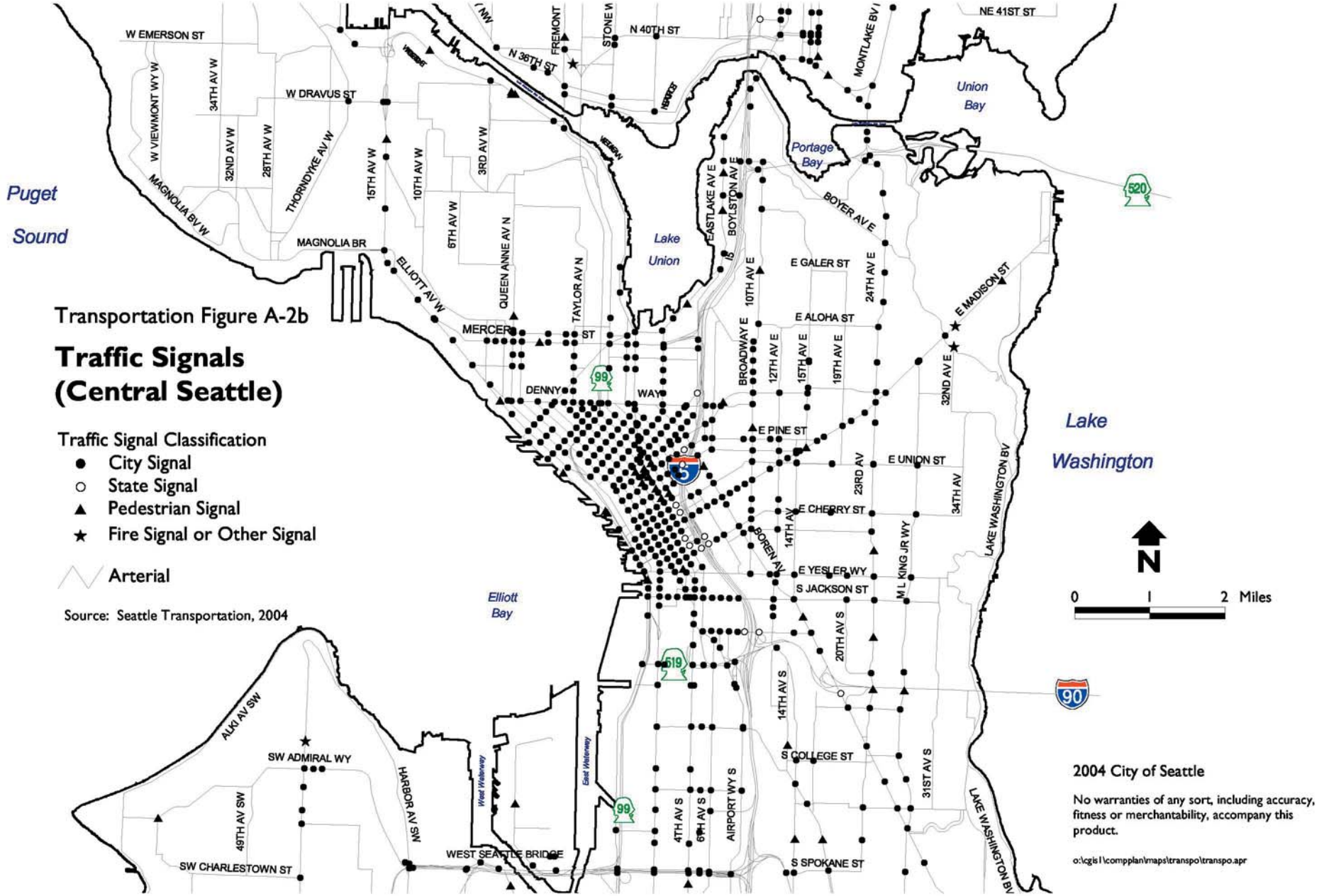
Arterials and State Routes



Transportation Figure A-2a

Traffic Signals (North Seattle)




Transportation Figure A-2b
Traffic Signals
(Central Seattle)
Traffic Signal Classification
City Signal
State Signal
Pedestrian Signal
Fire Signal or Other Signal
Arterial
Source: Seattle Transportation, 2004
Puget Sound
Lake Union
Portage Bay
Union Bay
Lake Washington
Elliott Bay
W EMERSON ST
NE 41ST ST
N 40TH ST
N 36TH ST
W DRAVUS ST
MAGNOLIA BR
MERCER ST
DENNY WAY
E GALER ST
E ALOHA ST
E MADISON ST
E PINE ST
E UNION ST
E CHERRY ST
E YESLER WY
S JACKSON ST
S COLLEGE ST
S SPOKANE ST
SW ADMIRAL WY
SW CHARLESTOWN ST
WEST SEATTLE BRIDGE
MONTLAKE BV
BOYER AV E
EASTLAKE AV E
BOYLSTON AV E
10TH AV E
12TH AV E
15TH AV E
19TH AV E
24TH AV E
32ND AV E
BROADWAY E
23RD AV
34TH AV
LAKE WASHINGTON BV
M L KING JR WY
14TH AV S
20TH AV S
31ST AV S
4TH AV S
6TH AV S
AIRPORT WY S
BOREN AV
ALKI AV SW
HARBOR AV SW
49TH AV SW
34TH AV W
32ND AV W
28TH AV W
THORNDYKE AV W
15TH AV W
10TH AV W
6TH AV W
3RD AV W
W VIEWMONT WY W
MAGNOLIA BV W
ELLIOTT AV W
QUEEN ANNE AV N
TAYLOR AV N
FREMONT
STONE W
West Waterway
East Waterway
520
5
99
90
619
N
0 1 2 Miles
2004 City of Seattle
No warranties of any sort, including accuracy, fitness or merchantability, accompany this product.
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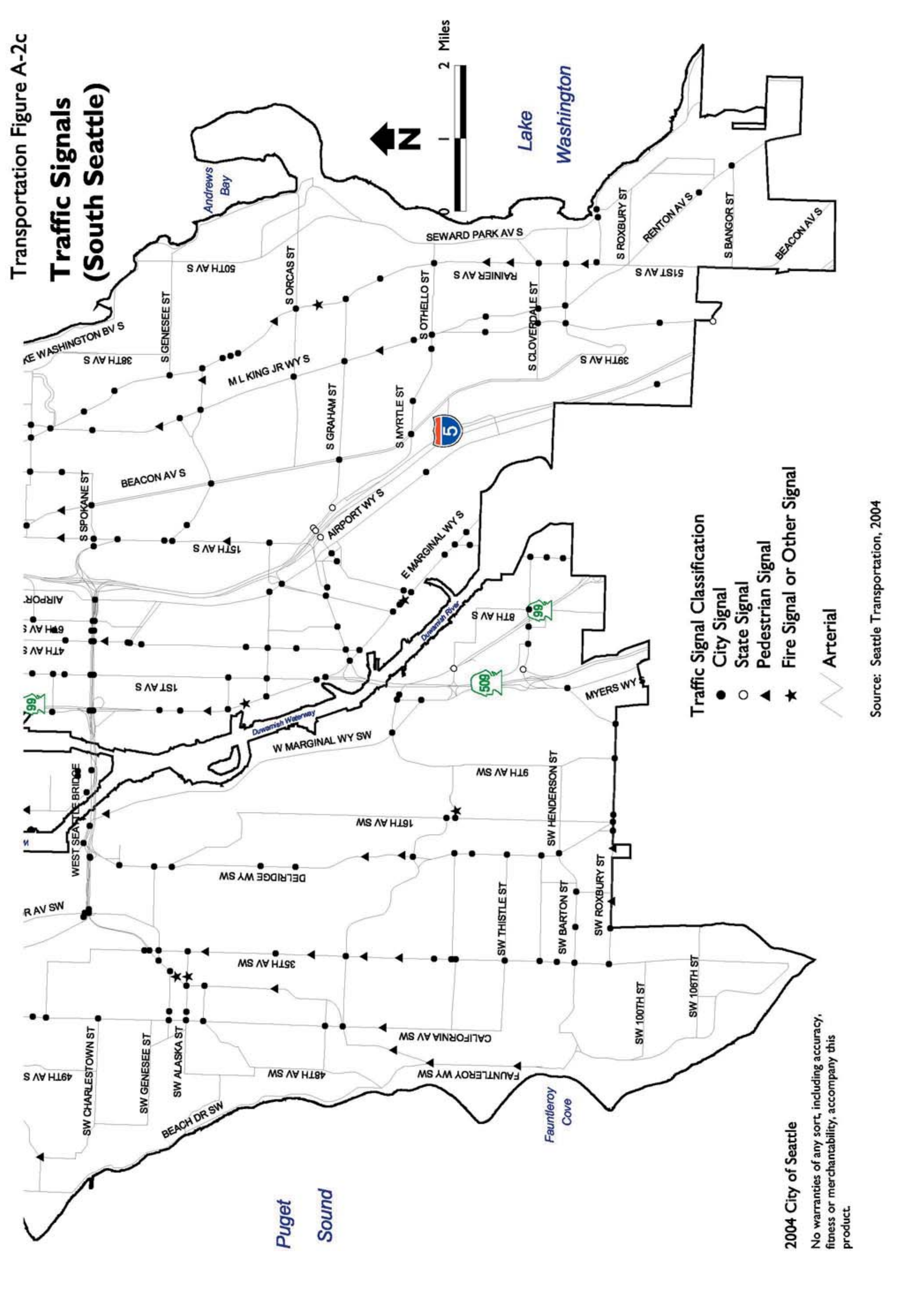
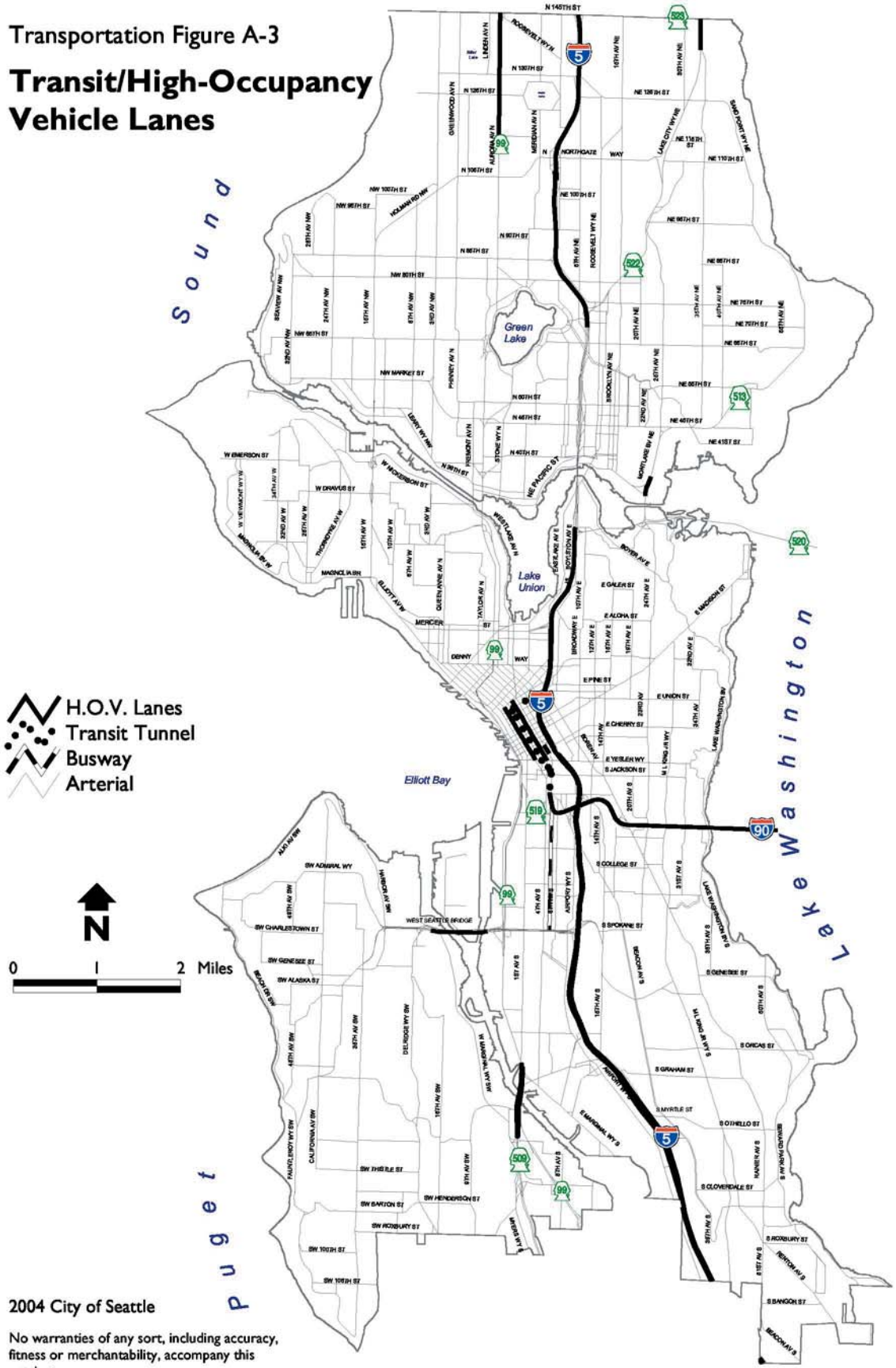

Transportation Figure A-2c
Traffic Signals (South Seattle)
Miles
Lake Washington
Andrews Bay
Puget Sound
Fauntleroy Cove
Duwamish Waterway
Duwamish River
SEWARD PARK AV S
S ROXBURY ST
RENTON AV S
S BANGOR ST
BEACON AV S
51ST AV S
RAINIER AV S
50TH AV S
S ORCAS ST
S OTHELLO ST
S CLOVERDALE ST
39TH AV S
S GENESEE ST
LAKE WASHINGTON BV S
38TH AV S
M L KING JR WY S
S GRAHAM ST
S MYRTLE ST
BEACON AV S
S SPOKANE ST
15TH AV S
AIRPORT WY S
E MARGINAL WY S
8TH AV S
MYERS WY S
1ST AV S
4TH AV S
6TH AV S
W MARGINAL WY SW
9TH AV SW
16TH AV SW
SW HENDERSON ST
WEST SEATTLE BRIDGE
DELRIDGE WY SW
SW ROXBURY ST
SW BARTON ST
SW THISTLE ST
35TH AV SW
SW 100TH ST
SW 106TH ST
CALIFORNIA AV SW
FAUNTLEROY WY SW
48TH AV SW
49TH AV S
SW CHARLESTOWN ST
SW GENESEE ST
SW ALASKA ST
BEACH DR SW
Traffic Signal Classification
City Signal
State Signal
Pedestrian Signal
Fire Signal or Other Signal
Arterial
Source: Seattle Transportation, 2004
2004 City of Seattle
No warranties of any sort, including accuracy, fitness or merchantability, accompany this product.

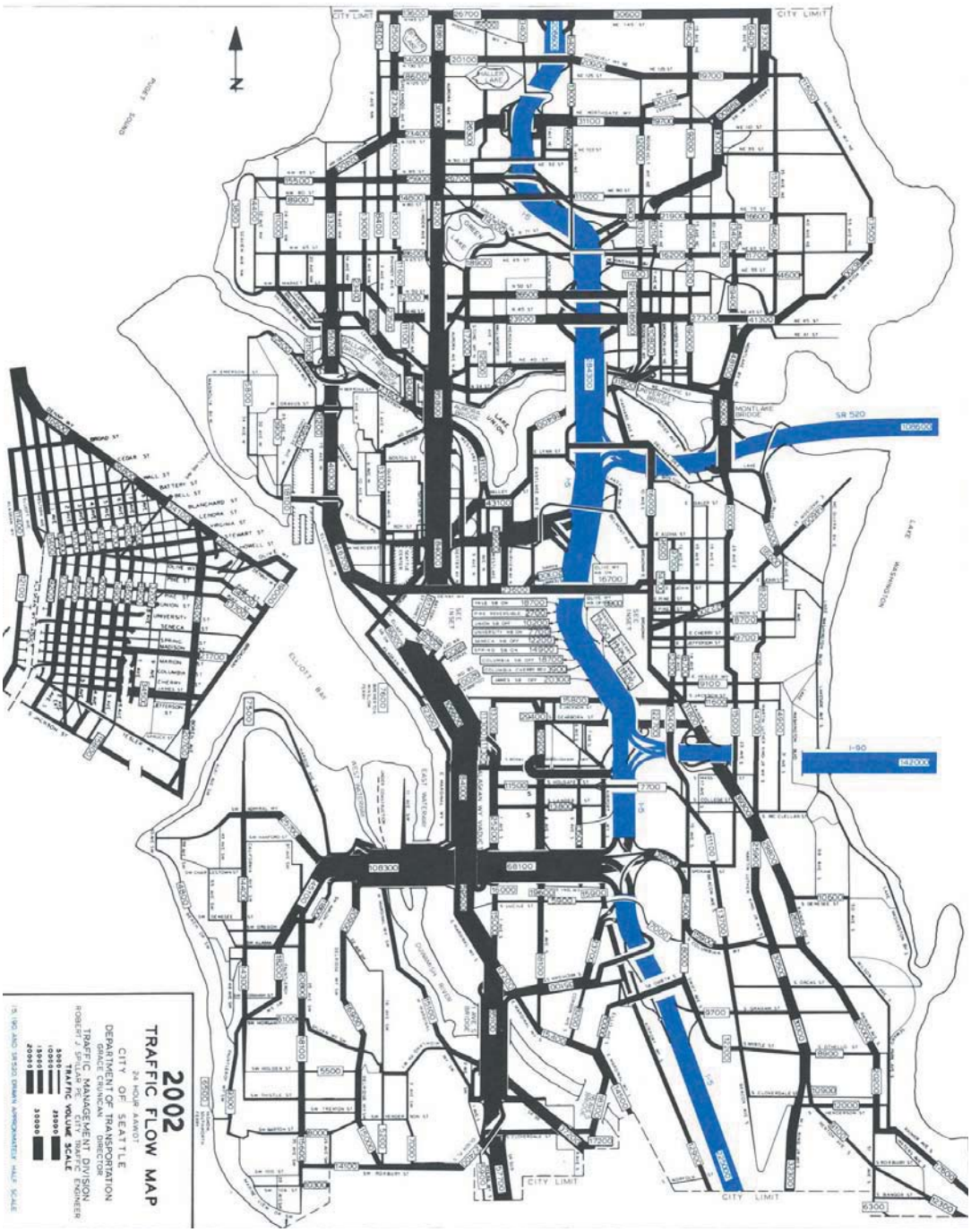
Transportation Figure A-3

Transit/High-Occupancy Vehicle Lanes

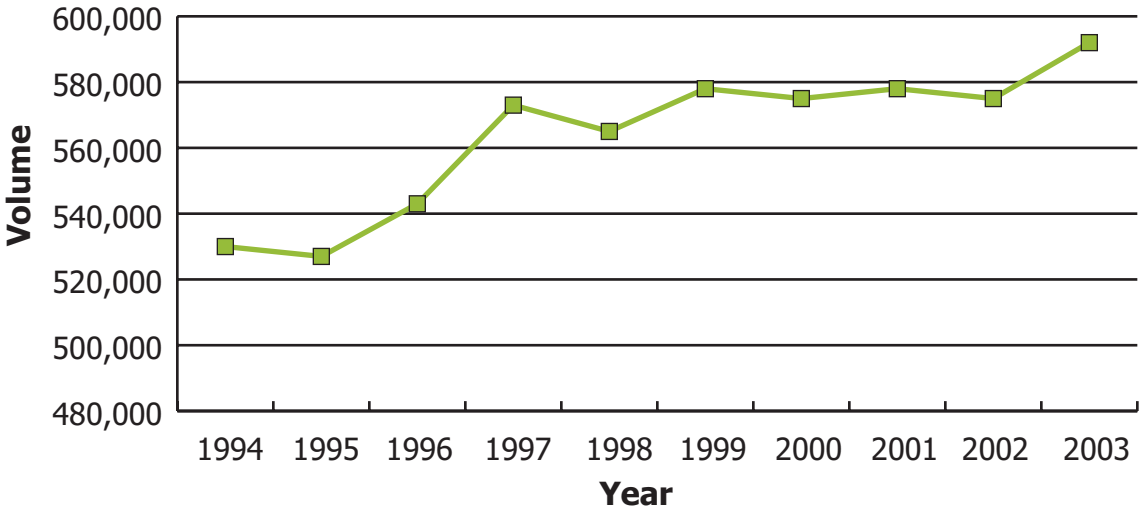


Transportation Figure A-4

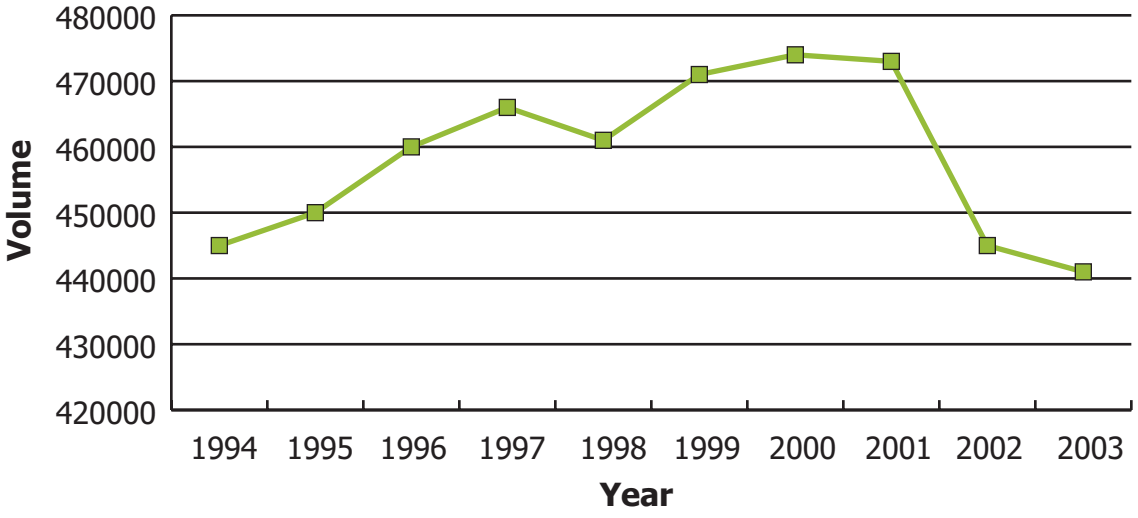
2002 Traffic Flow Map – Average Weekday Daily Traffic



Transportation Figure A-5
Average Weekday Traffic at City Limit Screenlines
1993 - 2003

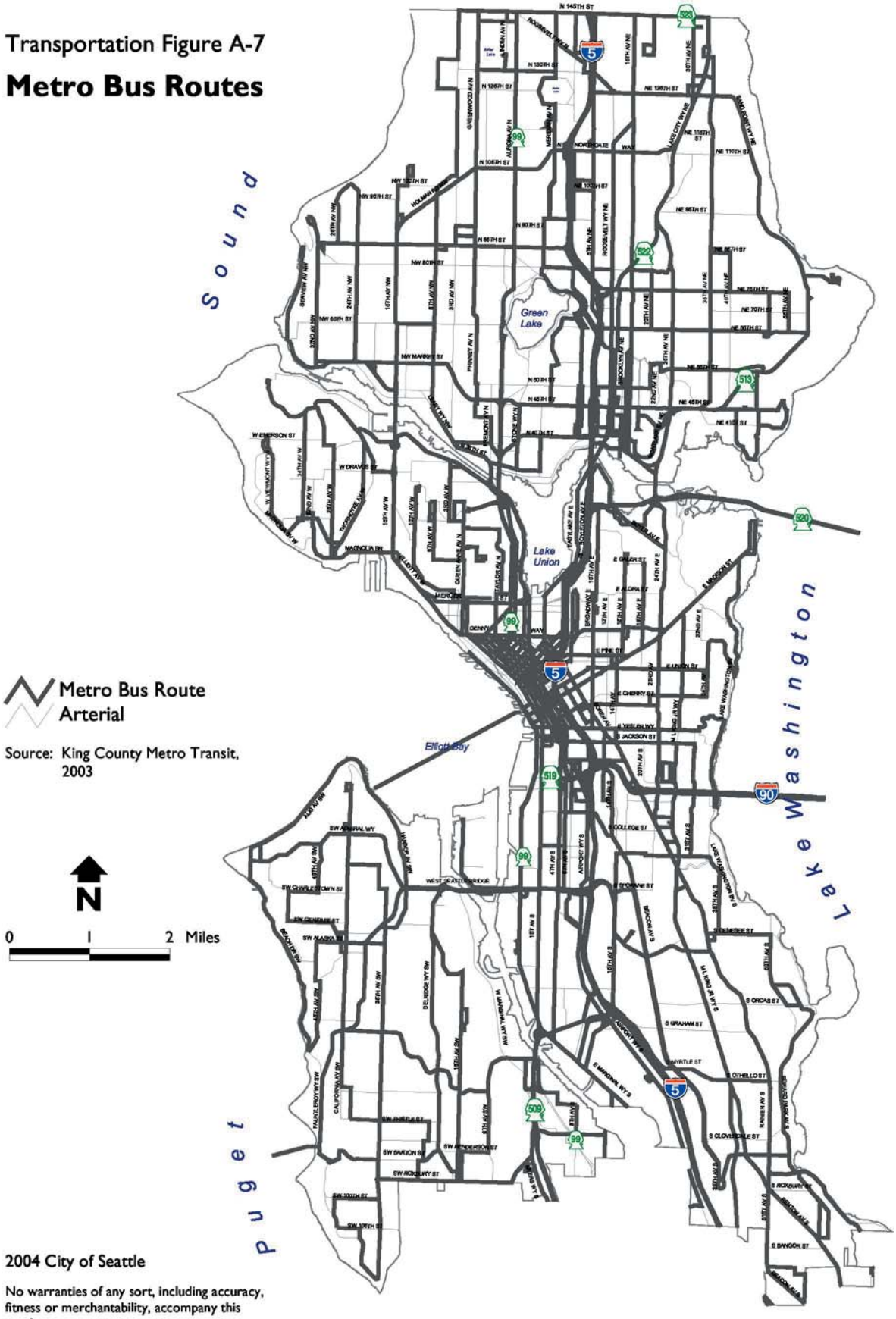


Transportation Figure A-6
Average Weekday Traffic at Downtown Cordon
1993 - 2003



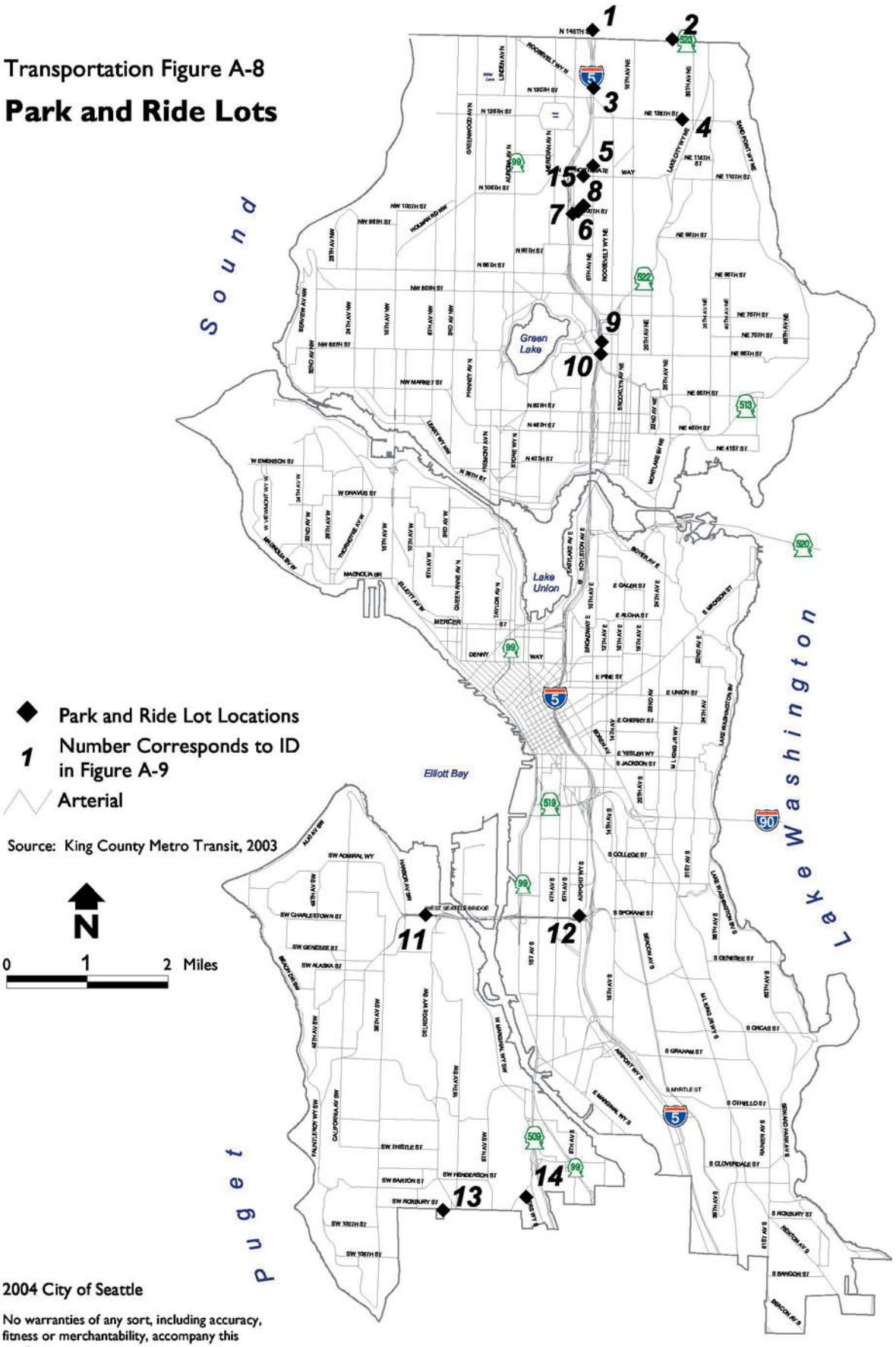
Transportation Figure A-7

Metro Bus Routes



Transportation Figure A-8

Park and Ride Lots



Transportation Figure A-9
Park & Ride Lot Inventory

ID	Park & Ride Location	Address	Number of Parking Stalls (1999)
1	North Jackson Park	14711 5th Ave. NE	68
2	Shoreline United Methodist Church	NE 145th St./25th Ave. NE	20
3	5th Ave. NE/NE 133rd St.	5th Ave. NE/NE 133rd St.	46
4	Our Savior Lutheran Church	NE 125th/27th Ave. NE	21
5	Northgate	11203 5th Ave. NE	401
6	Northgate Transit Center	10200 1st Ave. NE	296
7	North Seattle	10001 1st Ave. NE	141
8	Northgate TC Extension	3rd Ave. NE & NE 103rd St.	412
8	Northgate TC Extension Carpool	3rd Ave. NE & NE 103rd St.	75
9	Calvary Temple Church	6810 8th Ave. NE	75
10	I-5/NE 65th St.	6601 8th Ave. NE	446
11	Southwest Spokane St.	26th Ave. SW & SW Spokane St.	62
12	Airport Way/Spokane St.	Airport Way/Spokane St.	25
13	Holy Family Church	SW Roxbury/20th SW	36
14	Olson Way/Myers	9000 Olson Pl. SW	100
15	Northgate North Garage	300 NE Northgate Way	63

Source: Metro King County, December 2003. (Second Quarter Statistics)

Transportation Figure A-10
Bicycle Facilities, 2004

Routes	Miles
Bicycle Paths (Multi-use) - Total	**28**
Duwamish River (Duwamish Head to Michigan St.)	4.0
Harbor Island/West Seattle Bridge	1.0
Interstate 90 Path	3.5
Waterfront/Elliott Bay/Interbay	4.0
Burke Gilman Trail	14.5
South Lake Union	1.0
Bicycle Lanes - Total	**22**
Alki	2.5
Green Lake	4.0
Ravenna	1.0
Interstate 90 Extension (Dearborn)	1.0
Dexter/7th	2.2
Alaskan Way	2.0
Gilman/Government Way	1.6
Martin Luther King Way	0.8
Bicycle Routes (Signed) - Total	**90**
Alki	15.5
Duwamish (City limit to Michigan St.)	3.4
Sea-Tac Route	13.0
Lake Washington Boulevard	19.7
Magnolia Loop	7.5
Ravenna	2.5
8th Ave. NW (Burke Gilman Trail to 3rd Ave. NW)	5.5
Sand Point Way (Burke Gilman Trail By-pass Route)	10.0
Lake Union Route	2.0
Ballard/Seaview Route	4.5

Source: Seattle Department of Transportation, 2004.

Definitions:

Bicycle Path: A bikeway physically separated from motorized vehicular traffic by an open space or barrier and either within the highway right-of-way or within an independent right-of-way.

Bicycle Lane: A portion of a roadway that has been designated by striping, signing, and pavement markings for the preferential or exclusive use of bicyclists.

Bicycle Route: A segment of a system of bikeways designated by the jurisdiction having authority with appropriate directional and informational markers, with or without specific bicycle route number.

Transportation Figure A-11

2002 Off-Street Parking Inventory

Seattle Area	Total Stalls (2002)	Annual % Supply Change (1996-2002)	Average Occupancy Rate	Annual % Change in Average Occupancy. Rate 1996-2002	Average Two Hour Rate	Average Daily Rate	Average Monthly Rate	Annual % Change in Average Daily Rate 1996-2002
Central Business District	58,538	+1.6%	63.2%	-3.9%	$7.20	$14.52	$200.29	6.7%
Lower Queen Anne/South Lake Union	17,644	+0.7%	46.8%	-3.5%	$4.51	$6.52	$106.03	1.0%
First Hill	10,800	+0.7%	76.2%	0.0%	$3.60	$12.37	$91.71	11.4%
University District	5,134	N/A	63.8%	N/A	$3.35	$7.15	$74.37	N/A

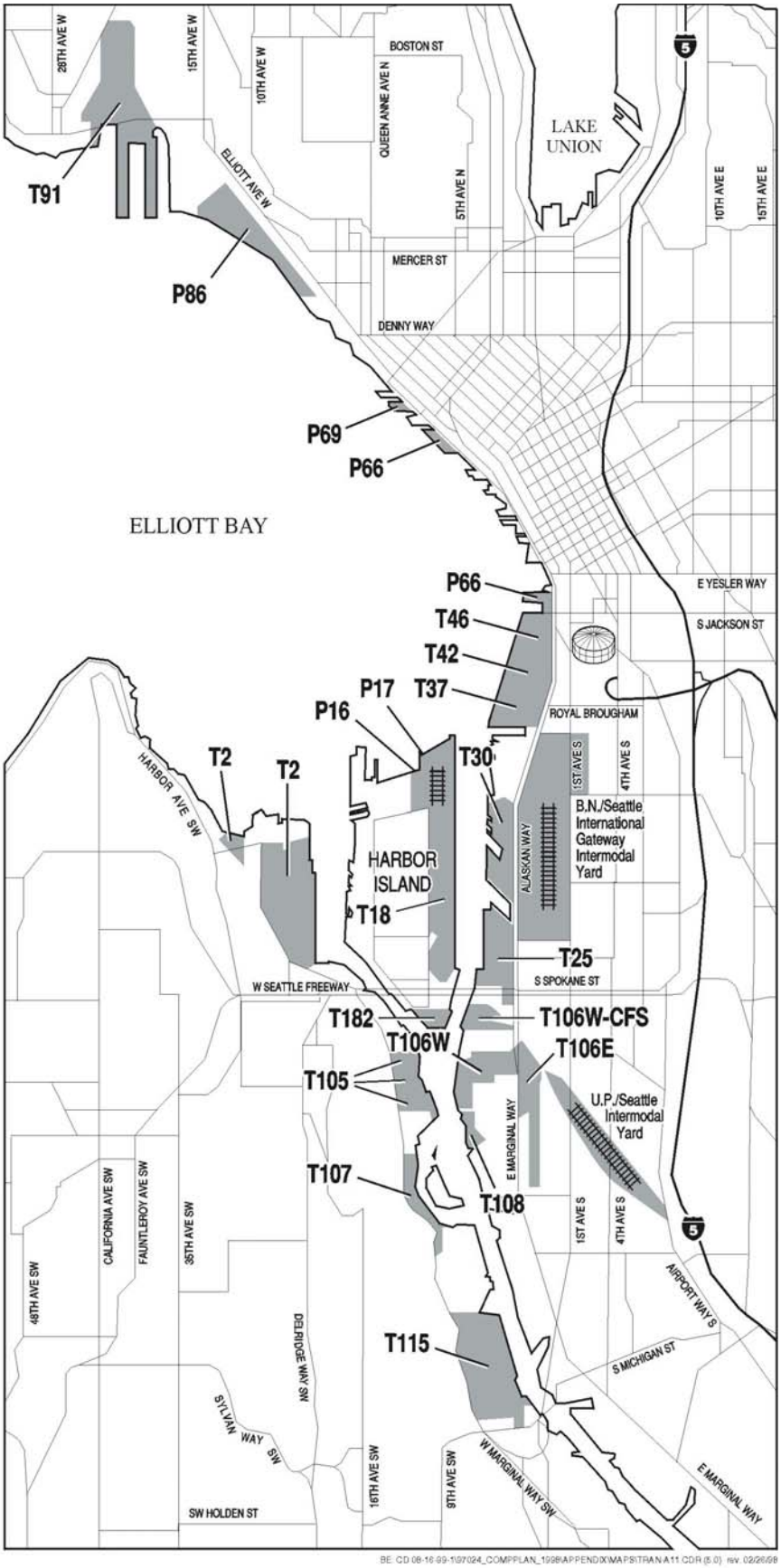
N/A = Not Available

Source: Parking Inventory for the Central Puget Sound Region, PUGET SOUND REGIONAL COUNCIL / JANUARY 2002. For copy of report, go to http://www.psrc.org/datapubs/pubs/parking2002.htm

Note that the PSRC collected University District data for the first time in 2002.

Transportation Figure A-12

Port of Seattle Facilities



Port Facility
P - Pier
T - Terminal

Source: Western Washington Ports Handbook 1992-1993

N

0 1/2 1
Scale in Miles

BE CD 08-16-99-1997024_COMPPLAN_1998\APPENDIX\MAPS\TRAN-A11.CDR (5.0) rev. 02/26/98

B Land Use Assumptions Used in Estimating Travel

To estimate future travel levels, assumptions were made for a variety of factors related to future population, employment, and transportation facilities. These include the number and geographic distribution of both households and employment in Seattle and the region, characteristics of households and jobs (e.g., number of residents per household, household income), and the transportation network (e.g., streets, transit routes). Then, a computer model was used to predict the total number of person-trips between various zones, the number of trips that would use various modes (e.g., car, bus, bike, walk), and the resulting vehicle traffic volumes on various streets throughout the city.

existing conditions

In 2000, the census counted 563,374 people living in Seattle; 2004 state estimates place the number at about 572,600. But Seattle's daytime population is much larger than the number of people who live in the city. A conservative 2000 estimate that takes employment into account but does not consider other reasons people come to, or leave, Seattle during the daytime—such as attending college classes, shopping, business travel, entertainment, tourism, and medical care—would number at least 717,465 in 2000. This estimate is based on the following data from the 2000 census:

- 563,374 people lived in Seattle in 2000
- 59,000 Seattle residents worked outside the city
- approximately 220,000 people commuted to Seattle from other places for work

Seattle covers about 54,000 acres of land. Most areas of the city are of predominantly one type of land use (e.g., residential, commercial, or industrial). About 40 percent of the city's land area is occupied by residential uses. In 1990, there were a total of about 249,000 housing units in the city. Estimates in 2003 place the total number of housing units in the city at about 269,069. The area north of the ship canal has more of its land area occupied by housing than mid-Seattle (south of the ship canal to I-90) or south Seattle (south of I-90).

Street rights-of-way take up the next largest amount of land, almost 26 percent. Commercial and industrial areas, where most of the jobs in the city are located, occupy about 13 percent of the land area. Parks occupy nine percent; cemeteries, reservoirs, and other uses occupy six percent; and six percent of the land is vacant.

regional land use assumptions

The Puget Sound Regional Council (PSRC) conducts regional planning for the four-county (Snohomish, King, Pierce, and Kitsap) central Puget Sound region. The PSRC's Vision 2020 Growth Strategy and Transportation Plan presents a vision and array of strategies designed to achieve goals of growth management, transportation demand management, and improved transportation investment decisions. The PSRC provides population and employment forecasts for the region, focusing future population and employment growth into urban centers.

Seattle land use assumptions

Within Seattle, the upper limits of the growth targets in the adopted Plan for population, households, and employment were used to estimate future travel. These targets call for an additional 47,000 households and 67,200 jobs over the 20-year life of this plan. This growth was allocated within the city as follows:

2004-2024 Growth Distribution

	Household Growth	Employment Growth
Urban centers	28,300 (60%)	67,200 (80%)
Hub urban villages	4,800 (10%)	4,200 (5%)
Residential villages	7,000 (15%)	4,200 (5%)
Areas outside centers and villages	7,000 (15%)	
Manufacturing/ industrial centers	—	8,400 (10%)
TOTAL	47,000 (100%)	84,000 (100%)

N/A = Not Available
Source: Parking Inventory for the Central Puget Sound Region, PUGET SOUND REGIONAL COUNCIL / JANUARY 2002. For copy of report, go to http://www.psrc.org/datapubs/pubs/parking2002.htm
Note that the PSRC collected University District data for the first time in 2002.

C Traffic Forecasts

Region-wide and city-limit traffic volume forecasts for the Comprehensive Plan are as follows:

Total vehicle-miles-of-travel (VMT) for the region (per day):	
1998 estimate:	76 million
2020 forecasts:	106 million (+39%)

Traffic volume at north city limit (vehicles per day):	
1998 estimate:	361,000
2020 forecasts:	413,000 (+14%)

Traffic volume at south city limit (vehicles per day):	
1998 estimate:	482,000
2020 forecasts:	546,000 (+13%)

Traffic volume at east city limit (SR 520 and I-90) (vehicles per day):	
1998 estimate:	259,300
2020 forecasts:	284,000 (+10%)

Regional transit trips as a percent of total motorized trips:	
1998 estimate:	3 percent
2020 forecasts:	6 percent

To analyze the transportation effects of the Comprehensive Plan goals and policies on the City's arterial streets in urban centers and in urban village areas, traffic conditions were analyzed for a system of 42 screenlines, shown in Transportation Figure A-13. These screenlines functionally cover the entire City, including urban centers and areas identified for future designation as urban villages. The Comprehensive Plan's level-of-service (LOS) system uses a similar screenline system, with 30 of the same screenlines. Twelve screenlines were added for this traffic forecast analysis to supplement the data in urban centers.

Traffic volumes were forecasted for arterial streets for the year 2020. These forecasted volumes were totaled for all arterials crossing a particular screenline, and this screenline volume was compared to the sum of the "planning capacities" for the arterials crossing the screenline, yielding a ratio of volume-to-capacity (v/c) for each direction of traffic for each screenline.

The screenline methodology was used both for the Comprehensive Plan's level-of-service system to judge the performance of the arterial system, and for the traffic forecast analysis described in this Appendix. This system was selected because it steps back from the micro-level focus of traditional intersection LOS analysis, and recognizes explicitly the broader geographic impacts of development and travel patterns. The system recognizes that no single intersection or arterial operates in isolation. Motorists have choices, and they select particular routes based on a wide variety of factors. If traffic congestion on one arterial increases, it may not make sense to expand the capacity of that arterial. The City, instead, may want to shift traffic to a nearby under-used arterial, or to expand capacity on a different nearby arterial, or to implement measures to reduce travel demand — or a combination of these strategies. Accordingly, this analytic methodology focuses on a "traffic-shed," an area where arterials among which drivers logically can choose are organized for functional analysis.

Transportation Figure A-14 lists, for each screenline, the forecasted year 2020. (This Figure supplements the more limited information provided in Transportation Figure 3 in Section E. of the Comprehensive Plan Transportation Element.)

As can be seen in Transportation Figure A-14, the forecasted screenline v/c ratios for the year 2020 under the Comprehensive Plan range from 0.32 to 1.2. With one exception, each screenline that serves as a level-of-service (LOS) screenline, the forecasted year 2020 v/c ratio is below the LOS standard established for that screenline. By analyzing the forecasted year 2020 v/c ratios at screenlines in or near urban centers, one can evaluate the effects of the Comprehensive Plan goals and policies on the transportation systems in the urban centers.

Downtown: Screenlines 10.11, 12.12, A1, A2, and A3 pass through or along the edge of the Downtown Urban Center, some encompassing north-south avenues, and some encompassing east-west streets. For all five of these screenlines, the year 2020 v/c ratios under the Comprehensive Plan are below 1.0. This means that for screenlines 10.11 and 12.12, the year 2020 v/c ratios are also below the established LOS standards of 1.0 for screenline 10.11 and 1.2 for screenline 12.12.

Seattle Center: For the Seattle Center Urban Center, screenline A4 is an east-west screenline while screenline A5 is drawn north-south through the Urban Center. For both of these screenlines, the year 2020 v/c ratios are well below 1.0.

First Hill/Capitol Hill: Screenlines A6, A7, and A8 are drawn through the First Hill/ Capitol Hill Urban Center. Screenline 12.12, on the east edge of the Downtown Urban Center, is on the west edge of the First Hill/Capitol Hill Urban Center. For all four of these screenlines, the year 2020 v/c ratios under the Comprehensive Plan are well below 1.0.

[1] As with the region-wide and city-limit traffic volume forecasts described earlier in this Appendix, the v/c ratios in Transportation Figure A-14 are based on the output of the PSRC Regional Transportation model. The traffic volume values produced from the model for this analysis differ slightly from values produced in earlier updates to the Comprehensive because of updates to the model, including a revised zone structure and revised employment estimates.

University District: For the University District Urban Center, screenlines 5.16 and 13.13 cover the south and west boundaries of the Urban Center, while screenline A9 passes east-west through the Center and screenline A10 is drawn north-south through the Center. The year 2020 v/c ratios under the comprehensive Plan for all four of these screenlines are below 1.0. The forecasted year 2020 v/c ratios for screenline 5.16 are nearly 1.0, compared to the LOS standard of 1.2. These high v/c ratios reflect traffic congestion around the University District, much of which is due to through traffic.

Northgate: For the Northgate Urban Center, screenline A11 is drawn east-west through the Center, while screenline A12 passes north-south through the Center. The year 2020 v/c ratios for both of these screenlines are well below 1.0.

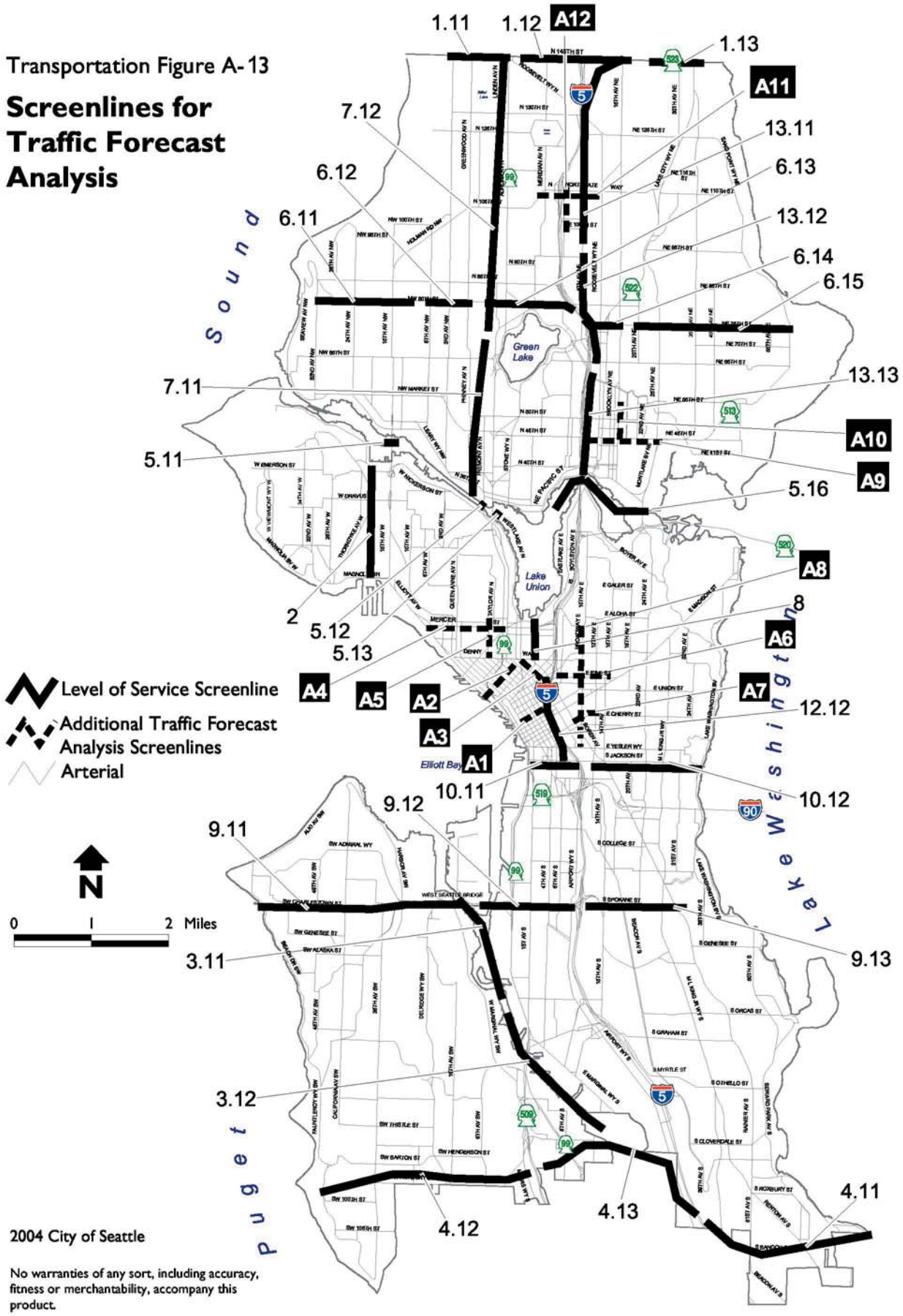
South Lake Union: For the South Lake Union Urban Center, Screenline 8 is drawn is drawn in a north-south, south of Lake Union. The year 2020 v/c ratio for this screenline is below 1.2 LOS standard.

The Comprehensive Plan includes policies to improve transit service and related transit capital facilities, as well as to improve non-motorized transportation facilities, to afford ways for people to avoid the traffic congestion inherent in dense urban centers and urban village areas. In this way, people may avoid the congestion reflected in higher v/c ratios across some screenlines.

As this analysis of transportation impacts demonstrates, the forecasted year 2020 screenline volume-to-capacity ratios under the Comprehensive Plan do not exceed the established LOS standards for any screenlines. With the exception of Screenline 5.16 for the Ballard Bridge, the forecasted year 2020 v/c ratios are within acceptable ranges. The 2020 v/c ratio forecast for Screenline 5.16 is 1.2 and the standard for that screen line is also 1.2. As provided in Comprehensive Plan Policy T69, when the calculated v/c ratio for a screenline approaches the LOS standard for that screenline, the City will pursue strategies to reduce vehicular travel demand across the screenline and/or increase the operating capacity across the screenline.

Transportation Figure A-13

Screenlines for Traffic Forecast Analysis



Transportation Figure A-14
Level of Service:
Screenline Volume-to-Capacity Ratios

Level-of-Service Screenline No.	Screenline Location	Segment	LOS Standard	Direction	2020 V/C Ratios
1.11	North City Limit	3rd Ave. NW to Aurora Ave. N	1.20	NB	0.96
				SB	0.61
1.12	North City Limit	Meridian Ave. N to 15th Ave. NE	1.20	NB	0.83
				SB	0.43
1.13	North City Limit	30th Ave. NE to Lake City Way NE	1.20	NB	0.93
				SB	0.58
2	Magnolia		1.00	EB	0.51
				WB	0.64
3.11	Duwamish River	West Seattle Fwy. & Spokane St.	1.20	EB	0.55
				WB	0.86
3.12	Duwamish River	1st Ave. S & 16th Ave. S	1.20	NB	0.51
				SB	0.75
4.11	South City Limit	MLK Jr. Way to Rainier Ave. S	1.00	NB	0.46
				SB	0.61
4.12	South City Limit	Marine Dr. SW to Meyers Way S	1.00	NB	0.33
				SB	0.39
4.13	South City Limit	SR 99 to Airport Way S	1.00	NB	0.41
				SB	0.49
5.11	Ship Canal	Ballard Bridge	1.20	NB	1.20
				SB	0.81
5.12	Ship Canal	Fremont Bridge	1.20	NB	1.07
				SB	0.73
5.13	Ship Canal	Aurora Bridge	1.20	NB	0.90
				SB	0.78
5.16	Ship Canal	University & Montlake Bridges	1.20	NB	1.10
				SB	1.07
6.11	South of NW 80th St.	Seaview Ave. NW to 15th Ave. NW	1.00	NB	0.47
				SB	0.32
6.12	South of N(W) 80th St.	8th Ave. NW to Greenwood Ave. N	1.00	NB	0.56
				SB	0.33
6.13	South of N(E) 80th St.	Linden Ave. N to 1st Ave. NE	1.00	NB	0.46
				SB	0.36
6.14	South of NE 80th St.	5th Ave. NE to 15th Ave. NE	1.00	NB	0.76
				SB	0.48

Transportation Figure A-14 (continued)

Level of Service:
Screenline Volume-to-Capacity Ratios

Level-of-Service Screenline No.	Screenline Location	Segment	LOS Standard	Direction	2020 V/C Ratios
6.15	South of NE 80th St.	20th Ave. NE to Sand Point Way NE	1.00	NB	0.55
				SB	0.38
7.11	West of Aurora Ave.	Fremont Pl N to N 65th St.	1.00	EB	0.52
				WB	0.71
7.12	West of Aurora Ave.	N 80th St. to N 145th St.	1.00	EB	0.46
				WB	0.56
8	South of Lake Union		1.20	EB	0.96
				WB	1.06
9.11	South of Spokane St.	Beach Dr. SW to W Marginal Way SW	1.00	NB	0.45
				SB	0.59
9.12	South of Spokane St.	E Marginal Way S to Airport Way S	1.00	NB	0.52
				SB	0.63
9.13	South of Spokane St.	15th Ave. S to Rainier Ave. S	1.00	NB	0.58
				SB	0.64
10.11	South of S Jackson St.	Alaskan Way S to 4th Ave. S	1.00	NB	0.70
				SB	0.69
10.12	South of S Jackson St.	12th Ave. S to Lakeside Ave. S	1.00	NB	0.52
				SB	0.66
12.12	East of CBD		1.20	EB	0.61
				WB	0.74
13.11	East of I-5	NE Northgate Way to NE 145th St.	1.00	EB	0.76
				WB	0.63
13.12	East of I-5	NE 65th St. to NE 80th St.	1.00	EB	0.46
				WB	0.48
13.13	East of I-5	NE Pacific St. to NE Ravenna Blvd.	1.00	EB	0.64
				WB	0.77

Transportation Figure A-15
Traffic Forecast:
Screenline Volume-to-Capacity Ratios

Traffic forecast Analysis Screenline No.	Screenline Location	Segment	Direction	2020 V/C Ratios
A1	North of Seneca St.	1st Ave. to 6th Ave.	NB	0.86
			SB	1.06
A2	North of Blanchard	Elliott Ave. to Westlake Ave.	NB	0.56
			SB	0.62
A3	East of 9th St.	Lenora St. to Pike St.	EB	0.42
			WB	0.42
A4	South of Mercer	Elliott Ave. W to Aurora Ave. N	NB	0.47
			SB	0.51
A5	East of 5th Ave. N	Denny Way to Valley St.	EB	0.47
			WB	0.59
A6	North of Pine St.	Melrose Ave. to 15th Ave.	NB	0.48
			SB	0.56
A7	North of James St.- E Cherry St.	Boren Ave. to 14th Ave.	NB	0.61
			SB	0.77
A8	West of Broadway	Yesler Way to E Roy St.	EB	0.60
			WB	0.55
A9	South of NE 45th St.	7th Ave. NE to Montlake Blvd. NE	NB	0.75
			SB	0.51
A10	East of 15th Ave. NE	NE 45th St. to NE 52nd St.	EB	0.64
			WB	0.91
A11	South of Northgate Way N 110th St.	N Northgate Way to Roosevelt Way NE	NB	0.61
			SB	0.35
A12	East of 1st Ave. NE	NE 100th St. to NE Northgate Way	EB	0.70
			WB	0.43

D Intergovernmental Coordination Efforts

This section describes the City's intergovernmental coordination efforts during the development of the Comprehensive Plan, and potential impacts of the plan on the transportation systems of adjacent jurisdictions.

Puget Sound Regional Council

Seattle is an active member of the Puget Sound Regional Council (PSRC), which is charged with certifying that local transportation plans are consistent with regional plans and goals. The City supports PSRC's Vision 2020, a transportation/land use plan that describes linking high density residential and employment centers throughout the region by high capacity transit and promoting a multi modal transportation system. Vision 2020's goals are carried forward by this Comprehensive Plan.

The PSRC provides population, employment, and transportation data to Seattle and other jurisdictions coordination is established via this centralized information resource.

In addition, the PSRC is charged with allocating certain federal funds. Seattle has participated in establishing the criteria and selection process to determine how funds will be distributed among transportation projects.

impacts on adjacent jurisdictions

Four jurisdictions are adjacent to the City of Seattle: the City of Shoreline, King County, and the City of Lake Forest Park along Seattle's north boundary, and the City of Tukwila and King County along Seattle's south boundary. In consultation with adjacent jurisdictions, several major arterials that lie within these jurisdictions near the Seattle border were selected for analysis. For each arterial, the existing p.m. peak hour traffic volume and forecasted year 2020 traffic volume were compared to the "planning capacity" of the arterial, yielding a volume-to-capacity (v/c) ratio. The results of this analysis are shown in Transportation Figure A-15.

For all but two of the arterials shown in Transportation Figure A-16, the p.m. peak hour v/c ratio is below 1.0, indicating that there is remaining traffic capacity currently and forecasted for the future. The exceptions are Bothell Way NE just north of NE 145th St., where the existing v/c is estimated to be .90 and the forecasted year 2020 v/c is estimated to be 1.08, and Greenwood Ave. N at 145th St. where existing outbound v/c is .5 and the forecasted year 2020 is 1.03.

These traffic volume and v/c figures reflect not only growth under Seattle's Comprehensive Plan, but also growth in the adjacent jurisdictions and throughout the central Puget Sound region. Much of the traffic on these arterials is through-traffic, with neither an origin nor a destination near the arterial.

In addition to the City of Seattle's analysis of transportation impacts on adjacent jurisdictions, as described in this section, Seattle continues to work with the adjacent jurisdictions to coordinate traffic operations and to minimize cross-boundary impacts.

Transportation Figure A-16

Adjacent Jurisdiction Arterials:
P.M. Peak Hour Capacities, Volumes & v/c Ratios

A. Major arterials just north of Seattle/King County-Shoreline-Lake Forest Park Border (145th St.)

Arterial	Existing - PM Peak Hour						2020 - PM Peak Hour					
	Outbound			Inbound			Outbound			Inbound		
	Capacity	Volume	v/c Ratio	Capacity	Volume	v/c Ratio	Capacity	Volume	v/c Ratio	Capacity	Volume	v/c Ratio
Greenwood Ave. N	760	380	0.50	760	410	0.54	760	780	1.03	760	380	0.50
Westminster Way N	2,600	1,590	0.61	2,600	660	0.25	2,600	2,190	0.84	2,600	700	0.27
Aurora Ave. N	3,060	1,790	0.58	3,060	890	0.29	3,060	2,200	0.72	3,060	1,080	0.35
Meridian Ave. N	1,030	750	0.73	1,030	210	0.20	2,160	1,015	0.47	2,160	260	0.12
5th Ave. NE	760	550	0.72	760	230	0.30	2,160	740	0.34	2,160	200	0.09
15th Ave. NE	2,160	1,380	0.64	2,160	240	0.11	2,160	1,920	0.89	2,160	260	0.12
25th Ave. NE	740	450	0.61	740	200	0.27	740	570	0.77	740	220	0.30
Bothell Way NE	2,450	2,510	0.90	2,450	1,150	0.47	2,450	2,640	1.08	2,450	1,250	0.51

B. Major arterials just south of Seattle/King County Border

Arterial	Existing - PM Peak Hour						2020 - PM Peak Hour					
	Outbound			Inbound			Outbound			Inbound		
	Capacity	Volume	v/c Ratio	Capacity	Volume	v/c Ratio	Capacity	Volume	v/c Ratio	Capacity	Volume	v/c Ratio
SW 106th St.	1,030	200	0.19	1,030	520	0.50	1,030	290	0.28	1,030	860	0.83
26th Ave. SW	760	90	0.12	760	300	0.39	760	200	0.26	760	620	0.82
16th Ave. SW	2,160	1,010	0.47	2,160	740	0.34	2,160	1,280	0.53	2,160	930	0.43
4th Ave. SW	760	310	0.41	760	350	0.46	760	320	0.42	760	250	0.33
Myers Way S	1,320	700	0.53	1,320	170	0.13	1,320	660	0.50	1,320	50	0.04
8th Ave. S	760	260	0.34	760	100	0.13	760	360	0.47	760	80	0.11
Military Rd. S	2,600	600	0.23	2,600	380	0.15	1,930	770	0.40	1,930	320	0.17
14th Ave. S	2,600	1260	0.48	2,600	540	0.21	2,600	1,340	0.52	2,600	590	0.23
Beacon Ave. S	760	430	0.57	760	150	0.20	760	490	0.64	760	210	0.28
Renton Ave. S	1,930	280	0.15	1,930	140	0.07	1,930	400	0.21	1,930	120	0.06
Rainier Ave. S	2,160	990	0.46	2,160	200	0.09	2,160	1,220	0.56	2,160	310	0.14

C. Major arterials just south of Seattle/Tukwila Border

Arterial	Existing - PM Peak Hour						2020 - PM Peak Hour					
	Outbound			Inbound			Outbound			Inbound		
	Capacity	Volume	v/c Ratio	Capacity	Volume	v/c Ratio	Capacity	Volume	v/c Ratio	Capacity	Volume	v/c Ratio
E Marginal Way S	1,800	1,320	0.73	1,800	680	0.38	1,800	1,760	0.98	1,800	640	0.52
Airport Way S	2,200	1,400	0.64	2,200	380	0.17	2,200	1,520	0.69	2,200	410	0.19
Martin Luther King Jr Way S	2,700	1,360	0.50	2,700	950	0.35	2,700	1,790	0.66	2,700	1370	0.51
51st Ave. S	1,980	430	0.22	1,980	150	0.08	1,980	480	0.24	1,980	210	0.11

Notes:
1. Outbound and inbound directions relative to Seattle.
2. Capacities for King County, Shoreline, Lake Forest Park, and Tukwila are from PSRC and Seattle traffic models.
3. All volumes are from Seattle traffic model-Forecast Years 1998 (existing) and 2020.
4. v/c Ratio = volume divided by capacity.
5. 5th Ave. NE location north of I-5 on-ramp.
6. Volumes rounded to the nearest ten.

Sources: City of Seattle Traffic Model; Puget Sound Regional Council (PSRC) Traffic model.

E State Highways in Seattle: Inventory, Projects & Impacts

state highways

The City of Seattle cooperates with the Washington State Department of Transportation (WSDOT) and the Puget Sound Regional Council to plan improvements to state transportation facilities and services and to ensure that the City's plans are consistent with the State Transportation Plan and the Metropolitan Transportation Plan – Destination 2030. This section describes the state highways within the city, level-of-service standards on state highways, and impacts of the Comprehensive Plan and Regional growth plans on state highways. Other state transportation facilities are described in preceding sections of this chapter.

inventory

There are ten state highways within Seattle city limits. They are shown in Transportation Figure A-1, and include: I-5, I-90, SR 99, SR 509, SR 513, SR 519, SR 520, SR 522, SR 523, and SR 900. I-5, I-90, SR 509, and SR 520 are limited access freeways. SR 99, while not classified as a limited access facility, functions as such through most of the segment between South Spokane Street and Winona Avenue North (near Green Lake), as well as south of the intersection of First Avenue South and East Marginal Way South.

Transportation Figure A-16 summarizes general information on state highways in Seattle, as provided by WSDOT. Traffic volumes for the year 2002 and projected volumes for the year 2020 are shown in Transportation Figure A-17. The 2002 volumes were compiled from traffic counts collected by WSDOT (freeways) and Seattle Transportation (non-freeways.) The 2020 projections were developed using the City of Seattle traffic forecasting model with regional population and employment forecasts.

The following are designated as "Highways of Statewide Significance" (HSS): I-5, I-90, SR 99, SR 509, SR 519, SR 520, and SR 522. Highways of statewide significance include, at a minimum, interstate highways and other principal arterials that are needed to connect major communities in the state. The state legislation designating HSS directs the State Transportation Commission to give higher priority for correcting identified deficiencies on highways of statewide significance. Non-HSS facilities in Seattle are SR 513, SR 523, and SR 900. These highways are monitored by the Puget Sound Regional Council for regional planning purposes.

level-of-service standards for highways of statewide significance

WSDOT is responsible for setting level-of-service standards on highways of statewide significance, while local jurisdictions work with the Puget Sound Regional Council to establish level-of-service standards on other state highways.

WSDOT uses an Annual Average Daily Traffic to one hour capacity ratio (AADT/C) to determine the severity of congestion over a 24 hour period. Index values under this system range from 1 (little to no congestion) to 24 (theoretically, congestion over the entire 24 hour day). This congestion indicator enables the comparison of each highway's daily volume of traffic to a one-hour capacity.

The Washington State Transportation Commission adopted this congestion index measure and established thresholds to identify "congested" highways at the index values of 10 for urban highways and 6 for rural highways. When compared to traditional peak hour measures, these thresholds approximate LOS D operation in urban areas and LOS C operation in rural areas. Highways above these thresholds are identified as deficient.

WSDOT recognizes that achieving the preferred level of service for urban areas may require solutions other than increasing capacity in all locations. Mitigation can include providing alternatives, e.g., light rail or commuter rail parallel to I-5.

level-of-service standards for regionally significant highways (non-HSS)

The Puget Sound regional Council is responsible for setting levels of standards for non-HSS highways. PSRC has adopted a three-tiered LOS standard that is designed to meet the needs of the Puget Sound region. These standards are as follows:

- Tier 1 (LOS E-mitigated) is applied to all of the designated urban centers as well as a three mile buffer around the most heavily traveled freeways (I-5, I-90, I-405, SR 167, and SR 520)
- Tier 2 (LOS D) is applied to the "outer" urban area outside the three mile buffer area and connecting the principal Urban Growth Area to the smaller Urban Growth Areas.
- Tier 3 (LOS C) is applied to rural highway routes that would not fit into the Tier 2 category.

In addition, non-HSS are incorporated into the City's level-of-service standards for arterial streets. The non-HSS are included in screenlines with other arterial streets.

impacts on state highways

The impacts of Seattle's Comprehensive Plan on state highways are not independent of impacts from the region's transportation and land use plans. Without growth in housing and employment in Seattle, traffic volumes on state highways would still increase due to growth in other parts of the region. Transportation Figure A-18 shows the allocation of year 2024 daily trips on each of the state highways within Seattle comparing trips with origins and destinations in Seattle compared with the rest of the region. Close to 50 percent of the trips on SR 99, SR 513, SR 519, and SR 522 within the city limits have both their origin and destination within the city limits. Only two state highways – I-90 and SR 509 – have more than 10 percent of their trips with neither an origin nor destination in Seattle.

Transportation Figure A-17 summarizes 2002 and projected 2020 traffic volumes and volume-to-capacity (V/C) ratios on selected segments of state highways*. The use of V/C to indicate impacts is consistent with the methodology for measuring level-of-service standards on the City's arterial street system. In the case of arterial level-of-service standards, the City estimates V/C ratios across screenlines.

state highway improvements

The City of Seattle will continue to coordinate with WSDOT for consistency between our plans and projects. Transportation Figure A-19 shows the Financially Constrained 20-Year Mobility Strategies from the 2002 to 2023 State Highway System Plan. In addition, the City of Seattle is participating in the planning and project development process for improvements to the SR 520 corridor across Lake Washington, and for addressing the Alaskan Way Viaduct portion of SR 99.

Transportation Figure A-17
State Highway Inventory

Route Designation	Enter City (Arm)	Leave City (Arm)	Length	Federal Functional Class	HSS or Non-HSS	Access Class	Posted Speed	# Lanes
I-5	158.24	174.64	16.40	Urban Interstate	HSS	Full limited access	60	6 to 8
I-5 Reversible Lanes	0.00	7.14	7.14	Urban Interstate	HSS	Full limited access	60	1 to 4
I-90	0.00	3.14	3.14	Urban Interstate	HSS	Full limited access	60	4 to 8
I-90 Reversible Lanes	0.00	3.09	3.09	Urban Interstate	HSS	Full limited access	60	2
SR 99	21.22	36.75	15.53	Urban Principal Arterial	HSS	Class 4 - 1st Ave. S. bridge to Spokane St. Class 1 - Spokane St. to Thomas St. Class 3 - Thomas St. to N 85th Class 4 - N. 85th to N 145th	30 to 50	4 to 7
SR 509	33.50	35.17	1.67	U1	HSS	Full limited access	45 to 55	4 to 5
SR 513	0.00	3.35	3.35	Urban Other Principal Arterial	Non-HSS	Full limited access @ SR 520 I/C Class 2 - SR 520 to NE 44th Class 3 - NE 44th to Magnuson Pk.	30 to 40	4 to 6
SR 519	0.00	1.14	1.14	U1	HSS	Class 5	30 to 40	4 to 6
SR 520	0.00	3.07	3.07	U1	HSS	Full limited access	40 to 50	4
SR 522	0.00	4.22	4.22	U1	HSS	Full limited access @ I-5 I/C Class 4 for remainder	30 to 35	2 to 5
SR 523	0.00	2.45	2.45	U1	Non-HSS	Full limited access @ I-5 I/C Class 4 for remainder	35	4
SR 900	0.90	1.05	0.15	U1	Non-HSS	Class 3	50	4

*This data does not include HOV lanes. Data sources are the Washington State Department of Transportation, the Puget Sound Regional Council Traffic Model, and the City of Seattle Department of Transportation.

Transportation Figure A-18

State Highway Traffic Volumes – 2002

State Highway	Location	Direction	AADT Volume	AWDT Volume	PM Peak Hour		AADT/ Capacity	AWDT/ Capacity
					Volume	V/C		
I-5	Boeing Access Rd. - Swift Ave. S	NB	105,284	108,540	6,890	0.73	11.20	11.55
		SB	111,812	115,270	8,800	0.94	11.89	12.26
I-5	Corson - Columbia Way S/West Seattle Bridge	NB	119,950	123,660	8,190	0.87	12.76	13.16
		SB	124,626	128,480	9,360	1.00	13.26	13.67
I-5	I-90 - James St.	NB	139,282	143,590	10,100	0.74	10.24	10.56
		SB	138,351	142,630	10,710	0.88	11.34	11.69
I-5	Lakeview Blvd. E - SR 520	NB	148,672	153,270	13,090	0.88	10.05	10.36
		SB	137,692	141,950	7,540	0.84	15.30	15.77
I-5	SR 520 - NE 50th St.	NB	138,438	142,720	13,630	0.95	9.61	9.91
		SB	134,791	138,960	7,430	1.03	18.72	19.30
I-5	NE 65th St. - SR 522	NB	121,357	125,110	12,040	1.00	10.11	10.43
		SB	114,363	117,900	6,100	0.85	15.88	16.38
I-5	NE 130th St. - NE 145th St.	NB	102,393	105,560	9,150	1.02	11.38	11.73
		SB	101,947	105,100	6,120	0.68	11.33	11.68
I-90	I-5 - Rainier Ave. S	EB	56,866	62,490	6,190	0.61	5.58	6.13
		WB	54,054	59,400	5,490	0.83	8.19	9.00
I-90	Rainier Ave. S - Lake Washington	EB	71,562	78,640	7,300	0.81	7.95	8.74
		WB	71,035	78,060	5,460	1.01	13.15	14.46
SR 99	14th Ave. S - S Cloverdale St.	NB	18,775	21,580	1,690	0.56	6.26	7.19
		SB	15,016	17,260	1,470	0.49	5.01	5.75
SR 99	14th Ave. S - S Cloverdale St.	NB	18,775	21,580	1,690	0.56	6.26	7.19
		SB	15,016	17,260	1,470	0.49	5.01	5.75
SR 99	W Marginal Way S- S Michigan St. (1st Ave. S Br.)	NB	38,767	44,560	2,880	0.48	6.46	7.43
		SB	35,044	40,280	4,450	0.74	5.84	6.71
SR 99	E Marginal Way - West Seattle Bridge	NB	23,777	27,330	2,530	0.94	8.81	10.12
		SB	21,976	25,260	2,500	0.93	8.14	9.36
SR 99	1st Ave. S Ramps - Seneca/Spring	NB	48,851	56,150	5,100	0.94	9.05	10.40
		SB	46,006	52,880	5,200	0.96	8.52	9.79
SR 99	Roy St. - Bridge Way N (Aurora Bridge)	NB	35,199	38,680	4,050	0.79	6.90	7.58
		SB	37,965	41,720	3,460	0.68	7.44	8.18
SR 99	Winona Ave. N - N 80th St.	NB	18,355	20,170	2,100	0.78	6.80	7.47
		SB	19,265	21,170	1,500	0.56	7.14	7.84
SR 99	Roosevelt Way N - N 145th St.	NB	17,536	19,270	1,860	0.94	8.86	9.73
		SB	18,236	20,040	1,350	0.68	9.21	10.12
SR 99	S 112th St. - S Cloverdale St.	NB	16,617	19,100	1,460	0.41	4.62	5.31
		SB	14,999	17,240	1,690	0.47	4.17	4.79

Transportation Figure A-18 (continued)

State Highway Traffic Volumes – 2002

State Highway	Location	Direction	AADT Volume	AWDT Volume	P.M. Peak Hour		AADT/ Capacity	AWDT/ Capacity
					Volume	V/C		
SR 513	SR 520 Ramps - NE Pacific St. (Montlake Br.)	NB	28,336	30,800	2,440	1.11	14.00	14.00
		SB	27,361	29,740	2,220	1.01	13.52	13.52
SR 513	Montlake Blvd. NE - Union Bay Pl. NE	EB	17,949	19,510	1,730	0.72	8.13	8.13
		WB	20,102	21,850	1,470	0.61	9.10	9.10
SR 522	Roosevelt Way NE - 12th Ave. NE	NB	14,025	14,920	1,640	1.03	9.33	9.33
		SB	13,987	15,370	720	0.36	7.69	7.69
SR 522	NE 137th St. - NE 145th St.	NB	17,108	18,200	1,790	0.81	8.27	8.27
		SB	17,973	19,750	1,280	0.58	8.98	8.98
SR 523	5th Ave. NE - 15th Ave. NE	EB	14,973	16,100	1,320	0.73	8.94	8.94
		WB	14,006	15,060	950	0.53	8.37	8.37
SR 520	I-5-Montlake Blvd.	EB	45,955	50,500	3,420	0.95	14.03	14.03
		WB	50,168	55,130	4,000	1.11	15.31	15.31
SR 520	Montlake Blvd.- Lake Washington	EB	52,352	57,530	3,950	1.04	15.14	15.14
		WB	50,778	55,800	2,930	0.77	14.68	14.68
SR 519	1st Ave. S - 4th Ave. S	EB	9,728	10,690	880	0.40	4.86	4.86
		WB	9,537	10,480	940	0.43	4.76	4.76

Transportation Figure A-18 (continued)

State Highway Traffic Volumes – 2020

State Highway	Location	Direction	AADT Volume	AWDT Volume	P.M. Peak Hour		AADT/ Capacity	AWDT/ Capacity
					Volume	V/C		
I-5	Boeing Access Rd. - Swift Ave. S	NB	113,781	117,300	6,090	0.65	12.10	12.48
		SB	109,251	112,630	9,300	0.99	11.62	11.98
I-5	Corson - Columbia Way S/West Seattle Bridge	NB	136,110	140,320	7,920	0.84	14.48	14.93
		SB	141,329	145,700	10,010	1.06	15.04	15.50
I-5	I-90 - James St.	NB	161,554	166,550	11,110	0.82	11.88	12.25
		SB	163,280	168,330	13,290	1.09	13.38	13.80
I-5	Lakeview Blvd. E - SR 520	NB	173,213	178,570	16,490	1.11	11.70	12.07
		SB	168,547	173,760	9,520	1.06	18.73	19.31
I-5	SR 520 - NE 50th St.	NB	171,380	176,680	15,600	1.08	11.90	12.27
		SB	169,090	174,320	8,970	1.25	23.48	24.21
I-5	NE 65th St. - SR 522	NB	153,483	158,230	14,120	1.18	12.79	13.19
		SB	147,780	152,350	7,350	1.02	20.52	21.16
I-5	NE 130th St. - NE 145th St.	NB	137,342	141,590	11,070	1.23	15.26	15.73
		SB	134,772	138,940	6,850	0.76	14.97	15.44
I-90	I-5 - Rainier Ave. S	EB	48,185	52,950	8,500	0.83	4.72	5.19
		WB	38,648	42,470	6,500	0.98	5.86	6.43
I-90	Rainier Ave. S - Lake Washington	EB	69,797	76,700	9,240	1.03	7.76	8.52
		WB	69,251	76,100	7,070	1.31	12.82	14.09
SR 99	14th Ave. S - S Cloverdale St.	NB	22,168	25,480	2,030	0.68	7.39	8.49
		SB	21,393	24,590	1,910	0.64	7.13	8.20
SR 99	W Marginal Way S-S Michigan St. (1st Ave. S Br.)	NB	48,459	55,700	3,320	0.55	8.08	9.28
		SB	46,684	53,660	5,910	0.99	7.78	8.94
SR 99	E Marginal Way - West Seattle Bridge	NB	32,338	37,170	2,640	0.98	11.98	13.77
		SB	30,963	35,590	3,120	1.16	11.47	13.18
SR 99	1st Ave. S Ramps - Seneca/Spring	NB	51,304	58,970	4,400	0.81	9.50	10.92
		SB	48,946	56,260	5,240	0.97	9.06	10.42
SR 99	Roy St. - Bridge Way N (Aurora Bridge)	NB	37,801	41,540	5,390	1.06	7.41	8.15
		SB	38,493	42,300	4,460	0.87	7.55	8.29
SR 99	Winona Ave. N - N 80th St.	NB	24,980	27,450	2,300	0.85	9.25	10.17
		SB	23,724	26,070	1,840	0.68	8.79	9.66
SR 99	Roosevelt Way N - N 145th St.	NB	25,234	27,730	2,670	1.35	12.74	14.01
		SB	25,571	28,100	1,680	0.85	12.91	14.19
SR 99	S 112th St. - S Cloverdale St.	NB	32,329	37,160	1,960	0.54	8.98	10.32
		SB	29,824	34,280	2,340	0.65	8.28	9.52

Transportation Figure A-18 (continued)

State Highway Traffic Volumes – 2020

State Highway	Location	Direction	AADT Volume	AWDT Volume	P.M. Peak Hour		AADT/ Capacity	AWDT/ Capacity
					Volume	V/C		
SR 513	SR 520 Ramps - NE Pacific St. (Montlake Br.)	NB	24,684	26,830	2,870	1.30	11.22	12.20
		SB	24,573	26,710	3,380	1.54	11.17	12.14
SR 513	Montlake Blvd. NE - Union Bay Pl. NE	EB	18,216	19,800	2,040	0.85	7.59	8.25
		WB	18,216	19,800	1,450	0.60	7.59	8.25
SR 522	Roosevelt Way NE - 12th Ave. NE	NB	14,194	15,100	1,680	1.05	8.87	9.44
		SB	20,475	22,500	920	0.46	10.24	11.25
SR 522	NE 137th St. - NE 145th St.	NB	19,176	20,400	2,250	1.02	8.72	9.27
		SB	18,655	20,500	1,250	0.57	8.48	9.32
SR 523	5th Ave. NE - 15th Ave. NE	EB	18,414	19,800	1,400	0.78	10.23	11.00
		WB	18,693	20,100	920	0.51	10.39	11.17
SR 520	I-5-Montlake Blvd.	EB	51,051	56,100	5,430	1.01	9.45	10.39
		WB	55,829	61,350	5,470	1.01	10.34	11.36
SR 520	Montlake Blvd. - Lake Washington	EB	58,804	64,620	6,780	1.26	10.89	11.97
		WB	60,333	66,300	6,090	1.13	11.17	12.28
SR 519	1st Ave. S - 4th Ave. S	EB	20,157	22,150	1,830	0.83	9.16	10.07
		WB	12,103	13,300	1,500	0.68	5.50	6.05

Transportation Figure A-19

Origins & Destinations of Trips on State Highways Within Seattle - Comp Plan Year 2024

	Seattle to Seattle (internal)	Seattle to Region	Region to Seattle	Region to Region (external)
PM Peak Hour				
I-5 @ Ship Canal Bridge	29%	37%	19%	15%
I-90 w/o Rainier Ave. S	10%	44%	26%	20%
SR 99 @ Viaduct	42%	52%	2%	4%
SR 509 n/o Cloverdale Int.	7%	57%	24%	12%
SR 513 n/o Montlake Br.	36%	38%	26%	0%
SR 519/Royal Brough. Way	32%	39%	7%	22%
SR 520 w/o Montlake Br.	13%	44%	34%	9%
SR 522 btwn. 15th/20th Ave. NE	58%	29%	9%	4%
SR 523 btwn. 5th/15th Ave. NE	13%	43%	35%	9%
Daily				
I-5 @ Ship Canal Bridge	32%	22%	21%	25%
I-90 w/o Rainier Ave. S	5%	41%	41%	13%
SR 99 @ Viaduct	46%	26%	26%	2%
SR 509 n/o Cloverdale Int.	5%	45%	43%	7%
SR 513 n/o Montlake Br.	36%	32%	32%	0%
SR 519/Royal Brough.Way	53%	15%	26%	6%
SR 520 w/o Montlake Br.	18%	36%	39%	7%
SR 522 btwn. 15th/20th Ave. NE	64%	16%	17%	3%
SR 523 btwn. 5th/15th Ave. NE	13%	41%	39%	7%

Source: City Of Seattle Traffic Model

Transportation Figure A-20

WSDOT State Highway Project List

Region	CTY	SR	NHS	Section Length	Improve-ment Program	Location	Description of Improvement	Est. Cost 1997$		Accuracy	Financially Constrained
								Low	High		
Northwest	King	5	Y	0.45	Mobility	Airport/ Indus-trial Way Inter-change Vicinity	HOV direct access to Industrial Way and the E-3 Busway.	$44.77 M	$60.57 M	Planning	yes
Northwest	King	5	Y	1.40	Mobility	E. Denny Way to SR 520	NFS - modify Mercer St. I/C and reversible lane for weave from SR 520 to Mercer St.	$133.4 M	$180.48 M	Planning	yes
Northwest	King	5	Y	0.00	Mobility	NE 50th St. I/C	HOV Direct Access Ramps at NE 50th St.	$24.96 M	$33.78 M	Planning	yes
Northwest	King	5	Y	0.00	Mobility	SR 523 (NE 145th St.) I/C Vicinity	HOV Direct Access Ramps at SR 523/145th	$8.78 M	$11.88 M	Planning	yes
Northwest	King	99	Y	3.05	Mobility	SR 509 I/C to Spokane St.	[New parallel 1st Ave. southbound bridge, rehab existing bridge] NFS - HOV lanes, partial access control, signal coordination? Regional rail system.	$1.41 M	$1.91 M	Scoping	yes
Northwest	King	99	Y	3.05	Mobility	1st Ave. S to Denny Way.	Study w/ city of Seattle for seismic ret-rofit of existing facility or removal of existing facility & construction of new roadway	$850,000	$1.10 M	Planning	yes
Northwest	King	99	Y	1.94	Mobility	N. 105th St. to N 145th St. (Seattle - NCL)	Study with city of Seattle - Widen to 6/7 lanes for HOV w/ transit & pedes-trian improvements. Aggressive access management. Signal coordination. Regional Bus service	$16.01 M	$21.67 M	Planning	yes
Northwest	King	509	Y	3.99	Mobility	S 136th St. to 1st Ave. S	NFS - widen to 6 lanes w/ HOV	$44.25 M	$59.87 M	Planning	yes
Northwest	King	520	Y	12.83	Mobility	Seattle to Redmond	Needs further study	$5,100 M	$6,900 M	Planning	Yes
Northwest	King	522	Y	11.10	Mobility	I-5 to 1-405	SR 522 Transportation Demand Management (TDM) Project	$2.64 M	$3.58 M	Planning	yes